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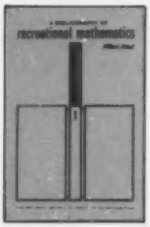

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ABSTRACTS OF FUTURE ARTICLES

A Comparison of Three Methods of Introducing Two-Digit Numeration, *David C. Barr*

Three methods of introducing two-digit numeration were compared, the important difference between the methods being the way in which this introduction was related to known counting behavior. Eleven kindergarten classes were selected, and on the basis of pretests, 193 children were divided into three homogeneous treatment groups. Each treatment received ten experimental lessons on alternate days and after posttesting, one maintenance lesson every week for 3 weeks. Finally, the children were tested for retention. The group that was taught to count by tens did better than those who counted in the ordinary way. The poorest results came from the group that did not count past ten—those who grouped objects into tens and ones and only later in the process used the normal number names.

Designing Instructional Methods in Mathematics to Accommodate Different Patterns of Aptitude, *Jerry P. Becker and Courtney D. Young, Jr.*

The interaction of two instructional treatments with two aptitude variables and four other predictor variables was studied. Several hundred students were pretested, from which 62 were selected who exhibited High-Low, High-High, Low-High, and Low-Low measures of the two aptitude variables. "Matched pairs" of students were then formed in each of these groups, and students in each pair were randomly assigned to one of the two instructional treatments. Four disordinal interactions, two using one predictor variable and two using two predictor variables, were found.

Hemispheric Specialization and Cognitive Development: Implications for Mathematics Education, *Grayson H. Wheatley, Robert L. Frankland, Robert Mitchell, and Rosemarie Kraft*

Evidence is presented for hemisphere specialization of the two brain hemispheres: the left hemisphere specialized for logico-analytic tasks and the right hemisphere, visuo-spatial tasks. A hypothesis is put forth for the emergence of the specialization that suggests a shift from predominant right hemisphere processing in infancy to predominant left hemisphere processing in adulthood. Results of the studies reviewed suggest the emergence of concrete-operational thought as the left hemisphere becomes capable of processing logical tasks. Electroencephalography seems particularly useful in determining specialization and mapping changes in hemispheric asymmetry. Implications for school mathematics curriculum are presented.

Preschool Children's Knowledge of Addition and Subtraction, *Lorelei R. Brush*

Two studies examine preschool children's knowledge of the effects of the physical processes of addition and subtraction on the relative amounts of two sets. Results indicate that children are very competent at these elementary problems though they often do not use numbers. They can select the set with more elements when the two initial sets are equivalent in number and operations are performed on one or both sets and when the initial sets are unequal but small in absolute size or very different in size. Most children recognize the inverse relationship of addition and subtraction.